

K. Samšiňák:

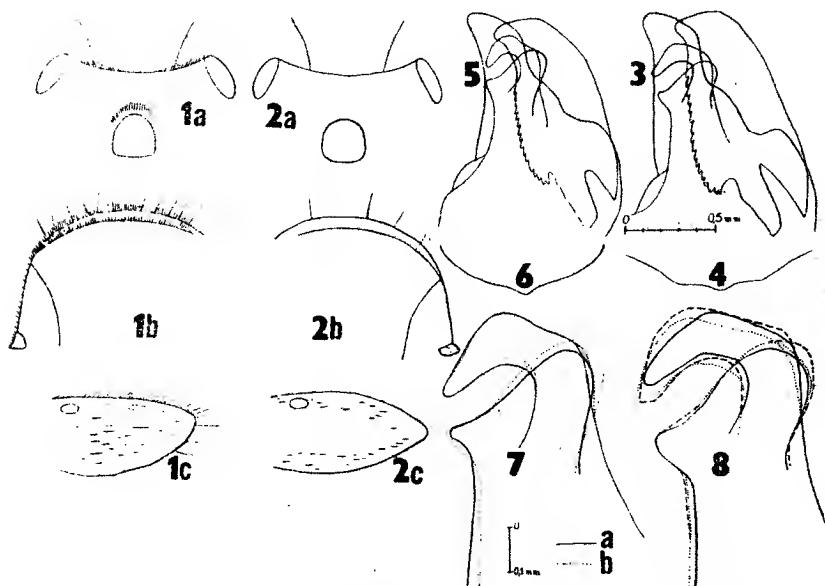
FORMICA FUSCA R. LEMANI BONDR. (Hym. Formic.)

(Z městského musea v Děčíně.)

Mravenec *Formica fusca* r. *lemani* Bondr. popsáný r. 1917 z pohoří Belgie a Francie byl od nás po prvé uveden ZÁLESKÝM r. 1939 a od té doby mnohokrát zjištěn. Bývá pokládán za mravence horského, neboť na př. na vrcholcích Krkonoš a Šumavy a je nejhojnějším mravencem vůbec. Sestupuje však i značně hluboko do pahorkatin. Tak byl nalezen u Sobotky (302 m n. m.), nebo v údolí Labe severně od Děčína (Loubí 132 m n. m.). Je zajímavé, že na Krkonoších má tento mravenec velmi ustálený vzhled, ať již jde o barvu, bronzový nádech, nebo i počet štětin na svrchní straně hrudi. Naproti tomu šumavské kusy jsou značně proměnlivé, takže je možno nalézt kolonie, jejichž jedinci jsou intensivně černí s hnědými nohama (Roklancké slatě) až ke koloniím nápadným již na první pohled velmi silným bronzovým nádechem a žlutými nohama. Podle znaků objevených na samcích, jakož i podle znaků dělnic se dá *F. lemani* pokládat za samostatný druh. Držím se však zatím běžného označení, které pokládá tuto formu za rasu *F. fusca* L. a odkládám definitivní rozřešení této otázky do revise celého subg. *Serviformica*.

Kromě svých vlastních sběrů měl jsem k dispozici materiály Záleského, uložené v Národním museu v Praze, za jejichž ochotné zapůjčení děkuji p. univ. prof. Dr. J. Obenbergerovi a materiály kol. Dr. V. Nováka, jemuž zároveň děkuji za zájem o moji práci a její všestrannou podporu. Při opatřování literatury mi vydatně pomohli Dr. Z. Bouček a Dr. O. Winkler.

Bondroit described 1917 *Formica fusca* v. *lemani* from the mountain-range of Belgium and France in the year. It is a very expressive and conspicuous form and it is quite easily distinguished from the original species. We take it for a mountain ant as it is usually found in higher positions, i. e. in tops of Krkonoše and Šumava mountains a most frequent ant and it replaces there the original species totally. It comes however down in hilly country — Boh.: Sobotka (302 m above sea-level, lgt. Samšiňák). Děčín (132 m, lgt. Pech, Štrof, Samšiňák).



1. *Formica fusca* r. *lemanii* Bondr. ♂
2. *Formica fusca* L. ♂ : a) the field among ocelli, b) the front part of pronotum-looking from above, c) squama petioli-looking from side.
3. The right half of phallus of *F. fusca* r. *lemanii* Bondr.
4. Ninth abdominal sternum of *F. fusca* r. *lemanii* Bondr.
5. The right half of phallus of *F. fusca* L.
6. Ninth abdominal sternum of *F. fusca* L.
7. Digitus and cuspis by *F. fusca* r. *lemanii* Bondr. (a), and *F. fusca* L. (b).
8. Digitus and cuspis by *F. fusca* r. *lemanii* Bondr. — *variabilitas*.

Description of male.

Material: Krkonoše 1946; Šumava 1947, 1948; Sobotka 1947 lgt. Samšiňák.

Caput a little narrower than thorax. The composite eyes large, they project from the vault of head. Clypeus with a keel. Mandibulae grooved along. Palpi mandibulares are longer but thinner than in the *Formica fusca* L.

Scapus overtops the crown about half its length. Funiculus fibrous, longer than the scapus. Its sections are swollen in first two third parts of its lower part. The first section of the funiculus is a little shorter, the last a little longer than the others. The field among ocelli carries besides the long bristles other short

black hairs. They are evident especially on the mound between the back ocelli near the sight from front (fig. 1a).

Pronotum with many more little black hairs. Looking from above they create the regular seam on the boundary between the pro- and mesonotum (fig. 1b). Mesonotum arch, dead, scutellum glimmerer. Tibiae downy on lower part with row of bristles.

The front part of the squama petioli usually plane, with close little black hairs. They are often several long bristles (fig. 1c) on the top.

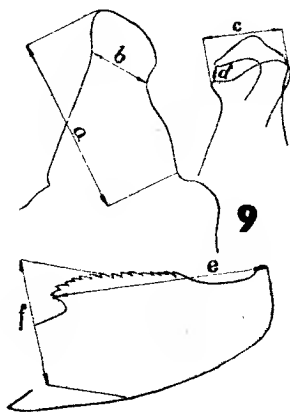
All the ants are black, antennae black-brown, the legs and phallus yellow.

The phallus shows a much relationship with *F. fusca* L. The most part of *F. fusca* r. *lemanii* is identical with Clausen's »B« type of *F. fusca* (fig. 43, p. 88 of quote treatise). It is remarkable by its stronger volsella and shorter lacinia. Biometrical examination of 50 pieces of *F. fusca* L. and 50 pieces of *F. fusca* r. *lemanii* Bondr. didn't bring remarkable results. I publish them however for casual comparison. I leave the unnecessarily toilsome process of Clausen, but the drawing brings in the work various inaccuracies. The measures are drawn in the fig. 9. I have been anxious to bring the numbers into proportions, whose most likely demonstrante relations and difference than bare numbers. I used the following proportions:

1. stipes: $\frac{100 a}{b}$
2. volsella + lacinia: $\frac{100 d}{c}$
3. sagitta: $\frac{100 f}{e}$

By the comparison with the *F. fusca* we get the next table:

	<i>Formica fusca</i>	<i>Formica f. r. lemanii</i>
$\frac{100 b}{a}$	30,1	28,3
$\frac{100 d}{c}$	25,8	28,6
$\frac{100 f}{e}$	57,1	61,8



I am using the nomenclature of EMERY (1895 — CLAUSEN 1938) with a comparative table with the nomenclature by Snodgrass (1941):

Emery (Clausen)		Snodgrass
Stipes		paramere
Squamula		lamina parameralis-parameral plate of caulis (basivolsella)
VolSELLa	} mittlere Valve	digitus vollsellaris — digitus
LacInia		cuspid volSELLaris — cuspid — distivolsella
Sagitta		aedeagus
Spatha		
Subgenitalplatte		ninth abdominal sternum
Penicilli		pygostyle

I have found sometimes the larvae of parasitic mites in the phallus of *F. fusca* L. and *F. fusca* r. *lemanii* Bondr., which I shall describe on an other place.

Contribution for the knowledge of the variability.

ZÁLESKÝ (1940) already distinguished two forms of *F. fusca* r. *lemanii*, in accordance with the number of yellow bristles on the gaster. I was not able to find similarly looking ants in his materials, deposited in the collections of the National Museum in Prague nowadays. It does not exist any dependance between the colour of the legs and a the number of the erect hairs on the dorsum of the thorax (SADIL 1945). I have got i. e. a colony of Šumava mountains, the workers of which have 12—37 hairs on the thorax and the dark legs. The samples of Dalmatia (lgt. Novák, 10. VIII. 1938) with very light legs, which have been spoken about in this connection approach nearly to the *Formica fusca rufipes*, described from Pamir by STITZ 1930.

I have separated the following two formes on base of my materials for the moment:

Formica fusca f. *fusco-lemani* m. n.

It connects the signs of both *F. fusca* L. f. typ. and *F. fusca* r. *lemani* Bondr. They are the colonies in which the specimens occur partly with the erect hairs on the dorsum of thorax, partly quite bare. The colour of extremities fluctuates from yellow to the brown. The bronze tinte is missing mostly. There are many authors speaking about the form of these characters.

Lok.: Boh.: Hůrka hill near Mladějov in B. (lgt. et coll. Samšíňák); Peřimov (lgt. Dlabola, coll. Záleský). Mor.: Kroměříž (lgt. Fiala, coll. Záleský).

Formica fusca r. *lemani* f. *šulci* m. n.

It is distinguished by dense whitish pubescence over all the surface of the body from which it receives a strong silk lustre, so that it is quite similar to the *F. fusca* r. *glebaria* Nyl. It has however the erected hairs on the dorsum of thorax and bright legs.

Called to the honour of J. ŠULC who has deserved about the coleopterological investigation of the surroundings from Sobotka.

Lok.: Podsemin near Sobotka, N. E. Bohemia.

LITERATURA.

- ARNOLDI: Studien über die Systematik der Ameisen. Fol. Zool. Hydrobiol. (Riga) 6, 1934, p. 151—174.
- BONDROIT: Diagnose de trois nouveaux *Formica* d'Europe. Bull. Soc. ent. France: (1917) 1917—1918, p. 186—188.
- BONDROIT: Les Fourmis de France et de Belgique. Ann. Soc. ent. France 87, 1918, p. 1—174.
- CLAUSEN: Untersuchungen über den männlichen Kopulationsapparat der Ameisen, speziell der Formiciden. Mitt. Schweiz. Ent. Ges. 17. 1938, p. 233—340.
- EMERY: Die Gattung *Dorylus* Fabr. und die systematische Eintheilung der Formiciden. Zool. Jahrb. Syst. 8, 1895, p. 685—778.
- KRATOCHVIL: Mravenci Jeseníků, Ent. Listy (Brno) 12, 1949, p. 13—20.
- MÜLLER: Le Formiche della Venezia Giulia e della Dalmazia. Bull. Soc. Adr. Sc. nat. Trieste 28, 1923, p. 11—180.
- SADIL: Příspěvek k poznání mravenci zvířeny Českomoravské vysočiny. Ent. Listy (Brno) 8, 1945, p. 11—20.
- SNODGRASS: The male genitalia of Hymenoptera. Washington 1941.
- STITZ: Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (I) 5. Hymenoptera III. (Formicidae). Mitt. Zool. Mus. Berlin 16, 1930, p. 238—240. — Ameisen oder Formicidae. Die Tierwelt Deutschlands 37. Jena 1939.

TARBINSKIJ-PLAVILŠČIKOV: Opređitel nasekomich evropejskoj časti SSSR. Moskva 1948.

ZALESKÝ: *Formica fusca lemni* Bondr. v oblasti býv. Československa. Příroda 32, 1939, p. 211. — *Formicoidea*. Prodrómus našeho blanokřídleho hmyzu III. Sbor. ent. odd. Nár. mus. Praha 17, 1939, p. 129—240. — Variabilita *Formica fusca lemni* Bondr. Příroda 33, 1940, p. 31.
